

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SEATTLE, WASHINGTON 98168

In the matter of the petition of

BOEING COMMERCIAL AIRPLANE COMPANY

for an exemption from §§ 25.783(g),
25.807(c)(1), 25.809(f) and 25.813(b)
of the Federal Aviation Regulations

Regulatory Docket No. 010NM

GRANT OF EXEMPTION

By letter dated July 22, 1986, Mr. F. W. Zappert, Manager, Airworthiness, Renton Division, Boeing Commercial Airplane Company (Boeing), P. O. Box 3707, Seattle, Washington 98124, petitioned for exemption from §§ 25.783(g), 25.807(c)(1), 25.809(f) and 25.813(b) of the Federal Aviation Regulations (FAR) to permit type certification of the Boeing Model 757-200PF (package freighter) for carriage of up to five persons in addition to two flight crewmembers in the flight deck compartment of the airplane. In response to a request from the Federal Aviation Administration (FAA), the petitioner provided additional information by letter dated October 15, 1986.

The Boeing Model 757 is a pressurized, low wing, transport category airplane powered by two turbofan engines. United States (U.S.) Type Certificate No. A2NM was issued December 21, 1982. The type certification basis includes Part 25, as amended by Amendments 25-1 through 25-45 with certain exceptions and additions that are not relevant to this petition.

Sections of the FAR affected:

Section 25.783(g), Amendment 25-23, requires, in pertinent part, that each passenger entry door in the side of a fuselage must qualify as a Type A, Type I or Type II passenger emergency exit.

Section 25.807(c)(1), Amendment 25-39, requires, in pertinent part, that airplanes having a passenger seating capacity in the range of 1 through 9, inclusive, be fitted with an emergency exit having at least the dimension of a Type III emergency exit on each side of the fuselage.

Section 25.809(f), Amendment 25-34, requires, in pertinent part, that each non-overwing emergency exit over 6 feet from the ground must have automatically deployed and erected means to assist occupants in descending to the ground.

Section 25.813(b), Amendment 25-32, requires, in pertinent part, that each passenger emergency exit covered by § 25.809(f) must have an assist space next to it.

Related sections of the FAR:

Section 25.805 contains, in pertinent part, the requirements for flightcrew emergency exits.

Section 25.807(a)(2) contains, in pertinent part, the requirements for a Type III emergency exit.

Section 121.583(a) contains, in pertinent part, a listing of categories of people who may be carried aboard an airplane in Part 121 service without complying with all the passenger-carrying airplane requirements of Part 121.

The petitioner's supportive information is as follows:

1. The flight deck of the Model 757-200PF is equipped with a crew entry door on the left-hand side that is large enough to be classified as a Type II exit but has a 9.9-inch step up to the door sill. In addition, there are left and right flight deck windows which are certified as flightcrew emergency exits. The left-hand door and the right-hand window are openable from the outside and all three exits are equipped with escape ropes.
2. The occupancy of the non-flight crewmembers will be limited by the Airplane Flight Manual to persons defined in § 121.583(a)(1) through (7). There will be a further limitation that the operator must make a finding that the occupants are physically able to use the escape means provided.
3. The petitioner submitted, by separate letter dated January 14, 1987, the results of an emergency evacuation demonstration of seven occupants through the right flight deck window exit. Five males and two females, ranging in age from 29 to 52 and of varying physical stature, evacuated the flight deck in 73 seconds.
4. The flight deck evacuation procedure, specifically a recommended body positioning sequence, will be added to the Operations Manual of the Model 757-200PF.
5. The petitioner states that granting the exemption would improve the utility of the airplane and improve the efficiency of the cargo carrying operation. This would tend to reduce air freight rates.

6. The petitioner also states that proper flight safety would be preserved by having on board personnel trained to care for animals and to maintain security of hazardous materials when such cargo is carried.
7. The petitioner further states that granting the petition for exemption will improve the potential for sales of the airplane to foreign operators which would improve the U.S. balance of payments.

A summary of the petitioner's July 22, 1986, request for exemption was published in the Federal Register on December 2, 1986 (51 FR 43489). No comments were received.

The FAA's analysis/summary is as follows:

The FAA finds, upon review of the results of the evacuation demonstration, and considering the minimal training given to the participants, that the petitioner has presented a persuasive argument that the two crewmembers and five noncrewmembers can safely be evacuated in an expeditious manner with the exits and assist means provided.

Considering the limitations that will be required to be in the Airplane Flight Manual, the FAA finds that airplane occupants will be able to safely utilize the emergency exits provided, even though they do not meet all the minimum requirements of a Type III exit. Additionally, the FAA finds that the escape ropes provided in the Model 757-200PF are adequate as a descent device for the limited number of people in the flight deck.

With respect to the lack of an assist space adjacent to each exit, the FAA has determined that the five noncrewmembers will have a higher level of training than a typical passenger and will therefore have less need for crew assistance. Additionally, in the relatively small confines of the flight deck, the flightcrew can easily provide instructions and some physical assistance, if needed.

The intent of § 25.783(g) is to ensure that the door through which people enter an airplane is also useable as an emergency exit. The door that is provided (22 x 55) is larger than the minimum Type II exit (20 x 44) but has a step up which is not allowed for non-overwing Type II exits. Because of the better trained, operator-approved, small number of noncrewmembers allowed in the flight deck, the FAA finds that the entry door provided in the Model 757-200PF can safely be used as an emergency exit and that the requirement that the entry door be a Type A, I or II is unnecessary.

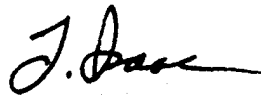
In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), Boeing Commercial Airplane Company is hereby granted an exemption from §§ 25.783(g), 25.807(c)(1), 25.809(f) and 25.813(b) of the

Federal Aviation Regulations to the extent required to permit type certification of the Boeing Model 757-200PF series airplanes for carriage in the flight deck of not more than five persons other than flight crewmembers when the flight deck is configured with a Type II size passenger entry door and left and right approved window exits for crewmembers, when all three exits are equipped with approved escape ropes, subject to the following conditions and limitations:

1. The FAA-approved Airplane Flight Manual must contain an operating limitation restricting flight deck occupancy by noncrewmembers to a maximum of five persons designated by the operator that are --
 - a. In one of the categories specified by § 121.583(a)(1) through (7);
 - b. Briefed by a flight crewmember on the use of the escape means prior to each flight; and
 - c. Found by the operator to be physically able to use the escape means provided.
2. The Operations Manual for the airplane must contain an illustrated sequence of the recommended procedure for evacuating from one of the window exits.

This exemption will remain in effect unless superseded or rescinded.

Issued in Seattle, Washington on June 9, 1987.



Frederick M. Isaac, Acting Director
Northwest Mountain Region